



Serving the Vending, OCS and Foodservice Management Industries

To: Michael Martin
California Energy Commission
Sacramento, CA

From: Larry M. Eils, Senior Director, Technical Services, NAMA
Brian Allen, Director, Government Affairs, NAMA
Danielle Del Carlo, Midwest Manager and Counsel

Date: October 29, 2004

Re: Docket No. 03-AAER-1
Glass-Front Bottled Beverage Vending Machines
Request for New Energy Consumption Category

On May 28, 2004 and August 9, 2004 the NAMA Energy Committee submitted comments to the Commission regarding class-front bottle beverage vending machines. At this time we would like to submit further documentation regarding the need for a separate energy efficiency category for what is now called Multi-package vendors.

Request for New Energy Efficiency Level

The NAMA Energy Committee agrees that your proposed energy usage standard is suitable for the traditional solid door vending machine configured to hold zone-cooled densely stacked columns of canned/bottled product but not for the new growing family of multi-package vendors, of which glass-front vendors are a part of, that have only recently appeared in the marketplace. Therefore, the NAMA Energy Committee believes a separate energy consumption category is necessary for these multi-package vendors as in the ENERGY STAR criteria machines.

To hold all current multi-package vendors and future beverage vendors to the current ENERGY STAR level could significantly stifle innovation and growth in beverage vending. When the multi-package vendor has a glass door, which allows the consumer to see all of the varying packages and products, different price points are posted for each position. So the multi-package vendor brings a plethora of products and packages at differing prices to the consumer.

Changes in Product Packaging

Beverage packaging is changing rapidly. At one time beverages were available in only glass bottles and steel/aluminum cans. With the growing acceptance of polyethylene packaging, and developments in barrier technologies and liner materials, and aseptic containers, beverages are sold in a growing variety of packages. The trend toward differing and more innovative packaging is being driven by consumer preferences. Differing beverage portion sizes, and unique package shapes follow the trend of frequent turnover in beverage product offerings. Consumers desire the same beverage options in vending as are available from convenience and petroleum outlets. Multi-package vendors bring these to the consumer.

Cooling Mechanism Differences in Machines

The energy performance of a multi-package vendor is different than a traditional closed door vendor for more reasons than just the possible addition of a glass door. Currently, in the predominant traditional solid door the cooling is forced on those cans that are about to be vended and not on those cans that are on top of the stack. With cold air concentrated on those cans at the bottom of the stack there is no need for extra

energy to cool the cans at the top of the stack. However, when it comes to multi-package vendors you cannot focus you're cooling on just a few products; you must cool everything in the machine since you do not know which of the next products will be selected. Consequently a larger area is being cooled.

Because multi-package vendors must cool every next-to-vend product an increased airflow throughout the cabinet is necessary, requiring larger or additional evaporator fans. Also, many glass-front vendors use 1/2hp vs. 1/3hp compressors resulting in greater energy usage.

Multi-package vendors are also unique for they have the ability to offer drinks in highly different packaging configurations. The consumer is now moving away from twelve ounce cans to drinks in other package sizes, shapes and materials. Multi-package vendors offer greater merchandising opportunities through larger selections of product in a greater variety of packaging.

It also needs to be stated that traditional stacked product solid door vendors have an insulated inner door panel to seal off the interior product cabinet. Since the glass used in a multi-package vendor is not a very good insulator, glass-front vendors must rely on double or triple pane glass doors, sometimes with an inert gas between panes, to insulate the cabinet interior. With nothing separating the interior of cabinet from the glass more energy is required to cool the cabinet interior.

In the future multi-package vendors may well represent the majority of beverage vendors purchased. A vending machine manufacturer can increase the cabinet insulation in a multi-package vendor, convert to energy-efficient compressors and fan motors, T-8 bulbs, and even an efficient thermostatic expansion valve, and still not achieve the energy levels specified in your proposal. The energy requirement you propose is unachievable by a multi-package vendor.

Energy Consumption Formula Proposal

At the present time the NAMA Energy Committee has developed a formula that can be used to determine the energy efficiency of multi-package vendors. It was our plan to submit this formula to you at this time for your consideration but we are still working through some technical problems. We would appreciate it if you would allow us some additional time to resolve these issues in order to submit an energy efficiency formula all interested parties can agree on.

Therefore, based on the above information, the NAMA Energy Committee would like to propose an amendment to Appliance Efficiency Regulations (California code of Regulations, title 20, Sections 1601-1608, and Title 24, Part 6, Sections 110-111) to include a category for multi-package vendors. As we stated in our previous communications to the Commission, the vending industry is more than willing to work with the Commission staff to develop an energy consumption category for these types of machines. We look forward to hearing from you as to how we proceed to submit our formula to the Commission.



Serving the Vending, Coffee Service and Foodservice Management Industries

Memorandum

04-AAER-1

CALIF ENERGY COMMISSION

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To: California Energy Commission

From: NAMA Energy Committee

Larry M. Eils, Senior director Technical Services, NAMA

Date: August 9, 2004

Re: Docket No. 04-AAER-1

Glass-Front Bottled Beverage Vending Machines

Request for new energy consumption regulations

On behalf of the NAMA Energy Committee I want to thank you and members of the Commission for responding to the NAMA Memorandum of May 28, 2004 wherein we requested to work with the California Energy Commission in the development of an energy consumption level for glass-front beverage vending machines that would be acceptable to both the Commission and the industry. To support our request I am now presenting to the Commission supporting information of why the NAMA Energy Committee believes separate energy consumption levels are necessary for glass-front beverage vending machines.

The energy performance of a glass-front vendor is different than a closed door vendor for more reasons than just the glass door. Two important reasons for this difference are the products vended from glass-fronts and the cold dispersion used in a solid door vendor because of the stacked product. Let me explain further.

Currently the predominant solid door vendor is designed with stacked columns of cans lying on their long side. This type of storage technique provides for rapid cold dispersion because of the densely packed cans. In addition, the solid door vendor employs zone cooling. Here the cooling is forced on those cans that are about to be vended and not on those cans that are on top of the stack. With cold air concentrated on those cans on the bottom of the stack there is no need for extra energy to cool the cans at the top of the stack. However, when it comes to glass-front vendors you cannot focus your cooling on just a few products, you must cool everything in the machine since you do not know which product will be selected. Consequently you will use more energy since you are now cooling a larger area.

The National Automatic Merchandising Association . www.vending.org

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Because glass-front vendors must cool every next-to-vend product position throughout the machine, an increased airflow throughout the cabinet is required requiring larger or additional evaporator fans. Also, many glass-front vendors use 1/2hp vs. 1/3hp compressors resulting in greater energy usage.

Glass-front vendors are also very unique for they have the ability to offer drinks in highly different packaging configurations. Stacked column vendors only dispense round cylindrical cans and very limited types of bottles. However, when you put bottles into a stacked column vendor you begin to get reliability problems concerning delivery of product. The consumer is now moving away from twelve ounce cans to drinks in other package sizes, shapes and materials. Glass-front vendors offer greater merchandising opportunities through larger selections of product in a greater variety of packaging and also bring about greater reliability in delivering these new products to our customers. As discussed earlier densely packed cans stacked on top of each other do require less energy to refrigerate but now that we have begun to dispense different type of packages in different shapes there needs to be more space around the packages so they can be reliably and individually dispensed from a machine. This means that the packages may not be in a densely stacked orientation and heat transfer will be slower. Also, the glass-front vendor has shelved product so the product contact and amount of product are both less than that of a stacked column vendor. So once again, more energy will be used for a glass-front vendor.

It also needs to be stated that solid door vendors have an insulated inner door panel to seal off the interior product cabinet. Since glass is not a very good insulator, glass-front vendors must rely on double or triple pane glass doors, sometimes with an inert gas between panes, to insulate the cabinet interior. With nothing separating the interior of cabinet from the glass more energy is required to cool the cabinet interior.

I would also like to point out that the ENERGY STAR specifications for can and bottled beverage vending machines do make a distinction between solid door and glass-front vendors by placing them in a special category which will eventually result in a specific energy efficiency specification within the next year.

Therefore, based on the above information we would like to propose an amendment to Appliance Efficiency Regulations (California Code of Regulations, Title 20, Sections 1601-1608, and Title 24, Part 6, Sections 110-111) to include a category for glass-front beverage vending machines. As I stated in our earlier communication to you the industry is more than willing to work with Commission staff to develop an energy consumption category for these types of machines. I look forward to hearing from you as to how we proceed to submit our data to you.



Serving the Vending, OCS and Foodservice Management Industries

04-AAER-1

Memorandum

To: Michael Martin
California Energy Commission,
Sacramento, California

From: Larry M. Eils, Senior Director Technical Services, NAMA
Brian Allen, Director Government Affairs, NAMA

Date: May 28, 2004

Re: Docket No. 04-AAER-1
Appliance Efficiency Regulations
Refrigerated Canned and Bottled Beverage Vending Machines

We want to apologize for the National Automatic Merchandising Association, NAMA, not being present at either of your Workshops concerning the update of Appliance Efficiency Regulations. However, the manufacturer members of NAMA would like to take this opportunity to present our comments and concerns concerning the proposed update for refrigerated canned and bottled beverage vending machines.

First, we concur with the recommendation to use the ASHRAE test method for energy consumption set forth in the report "Analysis of Standards Options for Refrigerated Beverage Vending Machines" prepared by the Pacific Gas and Electric Company dated May 5, 2004. The industry has spent considerable time developing the recent revision to ASHRAE Standard 32.1 and since the U.S.EPA also uses this for their ENERGY STAR Program as their standardized test method, this duality makes it much easier for manufacturers to test their machines.

Our second comment has to do with the doors on vending machines. We noticed in Table A-6 that the column "Doors" was marked "Not Applicable" for vending machines. We do not agree with this stipulation for the industry currently manufactures glass front refrigerated bottled beverage vending machines and the market is expected to increase. Since there is a difference in the energy consumption between these two types of machines because of the doors we are requesting that a second maximum daily energy consumption level be set for machines with glass front doors similar to that done for reach-in refrigerated cabinets in the same Table. I have assurances from the manufacturers of these machines that they would be more than willing to work with the Commission in the development of an energy consumption level that would be acceptable to both parties.

Finally, we would like to ask the Commission why the U.S. EPA ENERGY STAR Program energy consumption numbers were not used in the Table A-6 update. We do realize that the energy consumption numbers are close but the industry has spent more than 3 years developing the Eligibility Requirements that could be met and obtained by an industry that has been extremely slow in its recovery since the economic turn down of 2001. Yes, the industry is committed to developing and making available energy efficient vending machines but we ask, at the same time, that the California Energy Commission work with the industry in setting reasonable energy consumption requirements that do not require a large expenditure of capital that is not readily available at this time.

We look forward to hearing from you regarding these concerns and developing a dialogue in the creation of a new energy consumption category for refrigerated bottled beverage vending machines with glass front doors.

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